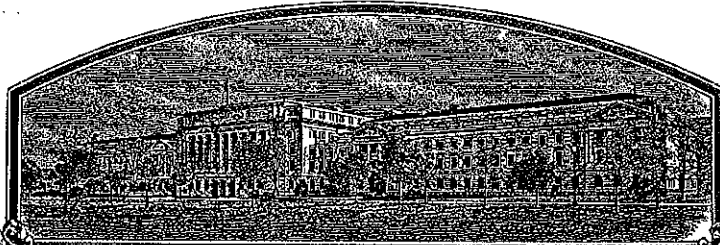


No.

200300181



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

*Seminis Vegetable Seeds, Inc.*

Whereas, THERE HAS BEEN PRESENTED TO THE  
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN, GARDEN

'Excalibur'

*In Testimony Whereof, I have herunto set my hand  
and caused the seal of the Plant Variety  
Protection Office to be affixed at the City of  
Washington, D.C. this seventh day of December,  
in the year two thousand and five.*

Attest:

*[Signature]*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*[Signature]*  
Secretary of Agriculture

REPRODUCE LOCALLY. Include form number and date on all reproductions


Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions and information collection burden statement on reverse)

<b>1. NAME OF OWNER</b>  Seminis Vegetable Seeds, Inc.		<b>2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME</b>  XP 08190505		<b>3. VARIETY NAME</b>  Excalibur <span style="float: right;">MA 8/11/05</span>	
<b>4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)</b>  2700 Camino del Sol Oxnard, CA 93030-7967		<b>5. TELEPHONE (Include area code)</b>  805 647 1572		<b>FOR OFFICIAL USE ONLY</b>  <b>PVPO NUMBER</b>  200300181	
<b>6. FAX (include area code)</b>  805 918 2545		<b>7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)</b>  Corporation		<b>8. IF INCORPORATED, GIVE STATE OF INCORPORATION</b>  California	
<b>9. DATE OF INCORPORATION</b>  04-Jun-1962		<b>10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)</b>  Sharen Chaffin Seminis Vegetable Seeds, Inc. 37437 State Hwy 16 Woodland CA 95616		Marcel Bruins Seminis Vegetable Seeds, Inc. Nude 54D 6702 DN Wageningen The Netherlands mbruins@svseeds.nl Ph: 31 317 450218 Fax: 31 317 450217	
<b>11. TELEPHONE (Include area code)</b>  530 669 6172		<b>12. FAX (Include area code)</b>  530 666 4426		<b>13. E-MAIL</b>  sharen.chaffin@seminis.com	
<b>14. CROP KIND (Common Name)</b>  Garden bean		<b>15. GENUS AND SPECIES NAME OF CROP</b>  Phaseolus vulgaris		<b>16. FAMILY NAME (Botanical)</b>  Leguminosae	
<b>17. IS THE VARIETY A FIRST GENERATION HYBRID?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		<b>18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)</b> a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		<b>19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED?</b> See Section 83(a) of the Plant Variety Protection Act. <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)	
<b>20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		<b>21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED * NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)		<b>22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)	
<b>23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		<b>24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.</b>  The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
<b>SIGNATURE OF OWNER</b>  		<b>SIGNATURE OF OWNER</b>  _____			
<b>NAME (Please print or type)</b>  Sharen Chaffin		<b>NAME (Please print or type)</b>  _____			
<b>CAPACITY OR TITLE</b>  Specialist		<b>DATE</b>  3/6/03		<b>CAPACITY OR TITLE</b>  _____	
<b>DATE</b>  3/11/2003		<b>DATE</b>  1			

## INSTRUCTIONS

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office  
Telephone: (301) 504-5518  
FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

## ITEM

- 18a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
  - (2) the details of subsequent stages of selection and multiplication;
  - (3) evidence of uniformity and stability; and
  - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

**21. CONTINUED FROM FRONT** (Please provide a statement as to the limitation and sequence of generations that may be certified.)

**22. CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

US: 4/5/02 sold with label marked "For Experimental Use."

**23. CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed/lsg-ed.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 8.0a. Replaces STD-470 (02-99) which is obsolete.

EXHIBIT A

## The Origin and Breeding History of 08190505 'Excalibur'

MPT  
8/11/2005

08190505 was developed by pedigree selection at the Seminis Pea and Bean Breeding Station in Twin Falls, ID from a population derived from a cross between "Magnum" as the female parent and "Minuette" as the male parent.

The "Magnum" used in this cross should not be confused with "Magnum", a Kentucky Wonder variety that was developed and marketed in the United States by Seminis Inc. Pop Vriend, a European seed company, briefly market "Magnum" (the seed parent used in the original cross) in Europe. Harris Moran Seed Company developed and marketed "Minuette".

02/03/93: Pots of Magnum (PV) (GH # 85) and pots of Minuette (GH # 82) were planted and used for crosses.

06/93: Six F1 seed from the cross was planted and the F2 seed was bulk harvested under the stake number R934700-1842.

06/94: 220 grams of seed harvested under the stake number R934700-1842 was planted under the stake number R94 6010. Eleven single plants were selected.

06/95: 65 seeds of a plant selected under the stake number R94 6010, were planted under the stake number R95 7093. Five plants were selected for the Italian Fresh Market because of their glossy pods.

06/96: Seed of R95 7093.01 was planted as stake R96 13458 and five F4 plants were selected based upon a glossy pod color. The plants selected differed by pod length.

06/97: Seed harvested from R96 13458.03 was planted under the stake number R97 11527. Three plants were selected for the "Flexo" market in Europe and the Mid East.

06/98: Seed harvested from R97 11527.02 was planted under the stake number R98 12349. According to the notes the line was bulked because it was breeding uniform and true. The line was selected as a Flexo type with very dark pod color and a medium to high luster that would also be evaluated in Oregon because of the pod length.

05/28/99: Seed of R98 12349 was planted under the stake number RWK 405. Crop RWK 405 was determined to be uniform and stable.

200300181

'Excalibur'

It was determined that 08190505 was uniform and stable within commercially acceptable limits. As is true with other garden beans, a small percentage of variants can occur within commercially acceptable limits for almost any characteristic during the course of repeated multiplication. However, no variants were observed during the two years in which 08190505 was observed for uniformity and stability.

MAH  
8/11/2005

The selection criteria during the early generations of breeding history of 08190505 was based on a balance of productivity and pod quality required for the Italian Fresh Market segment. In the higher generations, the selection criteria was based upon an excellent yield of smooth, straight, very dark, pods with a medium luster. The line was advanced to meet changing processing whole pod markets in the Pacific Northwest.

**EXHIBIT B****Novelty Statement Concerning 08190505 'Excalibur'**may  
8/11/2005

08190505 is a dual purpose Snap Bean variety developed by pedigree selection. To our knowledge, the variety that most closely resembles 08190505 is "Labrador", which was marketed and developed by Seminis for the cut and frozen processing markets. The comparative characteristics that most readily distinguish the two varieties include (but may not be limited to): pod appearance and sieve distribution. Labrador has a dull medium dark green color, whereas 08190505 has very dark green color with a medium luster. 08190505 produces a smaller average sieve size distribution than Labrador with fewer pods in the 5 sieve range at a comparable seed development. (see Table 1.)

08190505 was never compared to Magnum from Pop Vriend because Magnum was never marketed in the United States. Because Magnum was never marketed, the variety was not planted in our observation/PVP trial.

08190505 was compared in PVP trials to Labrador at the Seminis Research Station in Twins Falls, ID during the 2002 growing season. The results are shown in Table 1.

Table 1. Trial results from Twin Falls, ID. 2002

Cultivar	Days to Harvest	Heat Units	Pod Length (inches)	Yield (lbs/ac)	% Sieve 1,2,&3	% Sieve 4's	% Sieve 5's	10 seed Length (mm)	Largest % Fiber
08190505	71	1438	5.3	8234	44	50	6	100	.02
Labrador	72	1460	5.5	5870	27	46	27	99	tr

**EXHIBIT B. Statement of Distinctness**

Color Difference Claims asserted in Exhibit B are supported by the values detailed in Table 1. The RHS color chart values support that 08190505 is deeper green color versus that of the cultivar "Labrador".

Table 1. Royal Horticultural Society Colour Chart values for 08190505 and Labrador at 2 locations. 2003

Cultivar / Line	Twin Falls, ID 2003	DeForest, WI 2003
08190505	139C	139B
Labrador	138B	138B

**EXHIBIT C. Objective Description of the Variety**

Conflicting information between Exhibit C and Exhibit B is detailed in Table 2. Sieve size information, as does days to harvest, varies from year to year for all lines depending on the rate of heat unit accumulation, moisture patterns and other environmental conditions. Additionally, the percentages of each sieve size will also vary depending on the percent seed development at the time of harvest. Though we attempt to use 8 % seed (by processed weight) in our research, a standard commercial harvest may occur anywhere from 5% up to 11% seed.

What remains most consistent is that some cultivars produce relatively more of certain sieve sizes than others do. The comparison of Labrador and 08190505 (Table 3) taken from Exhibit B, was obtained in a trial designed to explore and contrast the relative sieve size distribution of these two lines. Exhibit C information was obtained in a separate trial focused on descriptors. The conflicting information detailed in Table 2 reflects the natural variability one might expect across different evaluations. The concentration of pods in sieve size 1-4 (100% and 94%) is actually quite consistent for 08190505.

Exhibit  
map  
8/11/05

**Table 2. Sieve size information gathered for PVP application of 08190505. 1999, 2002.**

PVP Section	% Sieve Sizes 1,2,3	% Sieve Size 4	% Sieve Size 5
Exhibit C	75	25	0
Exhibit B	44	50	6

**Table 3. Trial results comparing Labrador and 08190505 at Twin Falls, ID. 2002**

Cultivar	Days to Harvest	Heat Units	Pod Length (inches)	Yield (lbs/ac)	% Sieve 1,2,&3	% Sieve 4's	% Sieve 5's	10 seed Length (mm)	Largest % Fiber
08190505	71	1438	5.3	8234	44	50	6	100	.02
Labrador	72	1460	5.5	5870	27	46	27	99	tr

AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY DIVISION  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Garden Bean)

OBJECTIVE DESCRIPTION OF VARIETY  
GARDEN BEAN (*Phaseolus vulgaris* L.)

NAME OF APPLICANT(S)

Seminis Vegetable Seeds, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)

2700 Camino del Sol  
Oxnard, CA 93030-7967

FOR OFFICIAL USE ONLY

PVPO NUMBER 200300181

VARIETY NAME

Excalibur

mat  
8/11/05

TEMPORARY OR EXPERIMENTAL  
DESIGNATION

08190505

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g.,    or    when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Measured data should be for SPACED PLANTS. Ranges should also be given. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: Please answer all questions for your variety; lack of response may delay progress of your application.

1. TYPE:

1

1 = Garden 2 = Snap 3 = Flageolet 4 = Romano

2. MARKET MATURITY:

7  0

Days to edible pods

1  3  8  7

Heat units to edible pods

Number of days earlier than ....

..... Same number of days as ....

0  1

Number of days later than ....

8

Comparison varieties:

1 = 'Tendercrop' 2 = 'Kentucky Wonder'

3 = 'Goldrush' 4 = 'Slenderette'

5 = 'Gitana' 6 = 'Provider'

7 = 'Bush Blue Lake 290' 8 = Other (specify below)

Labrador

3. PLANT:

0  6

cm Spacing between plants in a row

1

Habit

1 = Determinate

2 = Indeterminate, erect stem and branches

3 = Indeterminate with weak and prostrate stem and branches

4 = Indeterminate climbing habit with weak, long and twisted stem and branches

4  2  0

cm Height

0  3

cm Shorter than .....

..... Same height as .....

cm Taller than .....

4  6

cm Spread

cm Narrower than .....

..... Same width as .....

0  1

cm Wider than .....

8

8

Use Comparison Varieties from Section 2.

Please make all 3 comparisons for  
Height and Spread.

7



## 3. PLANT: (continued)

200300181

☐ 3 Pod position 1=Low 2=High 3=Scattered

☐ 1 Bush form (illustrated below)



1=Spherical bush form



2=Stem bush form



3=Wide bush form



4=High bush form

5=Other (SPECIFY) \_\_\_\_\_

## 4. LEAVES:

☐ 3 Surface: 1=Dull 2=Glossy 3=Intermediate

☐ 2 Size: 1=Small ('Gitana') 2=Medium 3=Large ('Tendercrop')

☐ 3 Color: 1=Light green (as light or lighter than 'Goldrush')  
2=Medium green  
3=Dark green (as dark or darker than 'Bush Blue Lake 290')

## 5. ANTHOCYANIN PIGMENT:

1=Absent 2=Present

☐ 1 Flowers

☐ 1 Stems

☐ 1 Pods

☐ 1 Seeds

☐ 1 Leaves

☐ 1 Petioles

☐ 1 Peduncles

☐ 1 Nodes

## 6. FLOWER COLOR AND DAYS TO BLOOM:

☐ 1 Color of standard

☐ 1 Color of wings

☐ 1 Color of Keel

☐ 5 ☐ 2 Days to 50% bloom

## Flower Color Choices

1=White 2=Cream  
3=Pink 4=Lilac  
5=Purple 6=Blue  
7=Other (SPECIFY) \_\_\_\_\_

## 7. PODS (edible maturity):

☐ 3 Exterior color (fresh)

1=Light green (as light or lighter than 'Provider')  
2=Medium green  
3=Dark green (as dark or darker than 'Bush Blue Lake 290')  
4=Yellow ('Goldrush')  
5=Green-red variegated (horticultural)  
6=Other (SPECIFY) \_\_\_\_\_

☐ 2 Processed pods (exterior color) 1=Light ('Tendercrop') 2=Dark ('Bush Blue Lake 290')

☐ 1 Dry pod color 1=Buckskin ('Sprite') 2=Green, persistent chlorophyll ('Hystyle')

8

## 7. PODS: (edible maturity): (continued)

200300181

- 4 Cross section pod shape (middle of the pod) 1=Flat 2=Heart (Pear) 3=Round 4= Figure eight
- 1 Creaseback 1=Present 2=Absent
- 2 Pubescence 1=None ('Slenderette') 2=Sparse 3=Considerable ('Provider' or 'Sprite')
- 2 Constriction (Interlocular cavitation) 1=None 2=Slight 3=Deep
- 1 2 mm Spur length
- 1 Fiber 1=None ('Bush Blue Lake 290') 2=Sparse 3=Considerable ('Sprite')
- 5 Number of seeds per pod
- 1 Suture string 1=Present 2=Absent
- 2 Seed development 1=Slow ('Bush Blue Lake 290') 2=Medium 3=Fast ('Provider')
- 1 Machine harvest 1=Adapted 2=Not adapted

Percent sieve size distribution at optimum maturity for non-flat pods

4.76 to 5.76mm	5.76 to 7.34mm	7.34 to 8.34mm	8.34 to 9.53mm	9.53 to 10.72mm	≥ 10.72mm
8 %	11 %	56 %	25 %	%	%

3 Sieve	1 3	cm length	0 8	mm width	0 8	total mm thickness
4 Sieve		cm length		mm width		total mm thickness
5 Sieve		cm length		mm width		total mm thickness
6 Sieve		cm length		mm width		total mm thickness

## 8. SEED COLOR:

- 1 Seedcoat luster 1=Shiny 2=Dull 3=Semishiny 4=Variable
- 1 Seedcoat 1=Monochrome 2=Polychrome
- 0 1 Primary color 1=White 2=Yellow 3=Buff 4=Tan 5=Brown 6=Pink 7=Red 8=Purple 9=Blue 10=Black 11=Other (SPECIFY)
- 0 0 Secondary color 1=White 2=Yellow 3=Buff 4=Tan 5=Brown 6=Pink 7=Red 8=Purple 9=Blue 10=Black 11=Other (SPECIFY)
- 1 Seedcoat pattern 1=Solid 2=Splashed 3=Mottled 4=Striped 5=Flecked 6=Dotted
- 1 Hilal ring 1=Absent 2=Present
- Hilal Ring Color 1=White 2=Yellow 3=Buff 4=Tan 5=Brown 6=Pink 7=Red 8=Purple 9=Blue 10=Black 11=Other (SPECIFY)

9

## 9. SEED SHAPE AND SIZE:

200300187

Exhibit C (Garden Bean) Page

☐ 1 Hilum view

1=Elliptical      2=Oval      3=Round

☐ 3 Cross section      1=Elliptical      2=Oval      3=Cordate      4=Round

☐ 1 Side view

1=Oval to Oblong      2=Round      3=Reniform

☐ 2 ☐ 1 gm/100 Seed☐ ☐ gm/100 Seed lighter than .....

gm/100 Seed same as .....

☐ ☐ gm/100 Seed heavier than .....☐☐ 8☐Use Comparison Varieties from Section 2.

Please make all 3 comparisons.

10. DISEASE RESISTANCE: 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant

PLEASE SPECIFY RACE OR STRAIN WHERE APPROPRIATE

☐ 2 Anthracnose (*Colletotrichum lindemuthianum*)

☒ Race Alpha  
CO-2 Gene

☐ Race Delta

☐ Race Kappa

☐ Race Beta

☐ Race Epsilon

☐ specify race \_\_\_\_\_

☐ Race Gamma

☐ Race Lambda

☐ 0 Bean Rust (*Uromyces appendiculatus*)

☐ Race 38      ☐ Race 39      ☐ Race 40      ☐ Race 44

☐ Race 45      ☐ Race 46      ☐ Race 49      ☐ Race 50

☐ Race 51      ☐ Race 52      ☐ Race 54      ☐ Race 56

☐ Race 59      ☐ specify race \_\_\_\_\_

☐ 0 Powdery Mildew (*Erysiphe polygoni*) \_\_\_\_\_

☐ 0 Fusarium Root Rot (*Fusarium solani* f. sp. *phaseoli*) \_\_\_\_\_

☐ 0 Pythium Root Rot (*Pythium* spp.) \_\_\_\_\_

☐ 0 Aphanomyces Root Rot (*Aphanomyces euteiches*) \_\_\_\_\_

☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*) \_\_\_\_\_

☐ 0 Pythium Blight or Aerial Pythium (*Pythium ultimum*) \_\_\_\_\_

☐ 0 Angular Leaf Spot (*Isariopsis griseola*) \_\_\_\_\_

☐ 0 Bacterial Wilt (*Corynebacterium flaccumfaciens* subsp. *flaccumfaciens*) \_\_\_\_\_

10

200300181

## 10. DISEASE RESISTANCE: (continued)

<input type="checkbox"/> 1	Bacterial Brown Spot ( <i>Pseudomonas syringae</i> pv. <i>syringae</i> )																
<input type="checkbox"/> 0	Common Bacterial Blight ( <i>Xanthomonas campestris</i> pv. <i>phaseoli</i> )																
<input type="checkbox"/> 2	Halo blight ( <i>Pseudomonas syringae</i> pv. <i>phaseolicola</i> )																
	<input checked="" type="checkbox"/> Race 1 <input type="checkbox"/> Race 2 <input type="checkbox"/> Other (SPECIFY) _____																
<input type="checkbox"/> 0	Clover Yellow Vein Virus (CYVV)																
<input type="checkbox"/> 2	Bean Common Mosaic Virus (BCMV)																
	<table border="0"> <tr> <td><input type="checkbox"/> BV1</td> <td><input type="checkbox"/> NY15</td> <td><input type="checkbox"/> NL2</td> <td><input checked="" type="checkbox"/> NL3</td> </tr> <tr> <td><input type="checkbox"/> NL4</td> <td><input type="checkbox"/> NL8</td> <td><input type="checkbox"/> Florida</td> <td><input type="checkbox"/> 'I' Gene</td> </tr> <tr> <td><input type="checkbox"/> Mexican</td> <td><input type="checkbox"/> Western</td> <td><input type="checkbox"/> Type</td> <td><input type="checkbox"/> Idaho</td> </tr> <tr> <td colspan="4"><input type="checkbox"/> Other (SPECIFY) _____</td> </tr> </table>	<input type="checkbox"/> BV1	<input type="checkbox"/> NY15	<input type="checkbox"/> NL2	<input checked="" type="checkbox"/> NL3	<input type="checkbox"/> NL4	<input type="checkbox"/> NL8	<input type="checkbox"/> Florida	<input type="checkbox"/> 'I' Gene	<input type="checkbox"/> Mexican	<input type="checkbox"/> Western	<input type="checkbox"/> Type	<input type="checkbox"/> Idaho	<input type="checkbox"/> Other (SPECIFY) _____			
<input type="checkbox"/> BV1	<input type="checkbox"/> NY15	<input type="checkbox"/> NL2	<input checked="" type="checkbox"/> NL3														
<input type="checkbox"/> NL4	<input type="checkbox"/> NL8	<input type="checkbox"/> Florida	<input type="checkbox"/> 'I' Gene														
<input type="checkbox"/> Mexican	<input type="checkbox"/> Western	<input type="checkbox"/> Type	<input type="checkbox"/> Idaho														
<input type="checkbox"/> Other (SPECIFY) _____																	
<input type="checkbox"/> 0	Yellow Bean Mosaic Virus (BYMV)																
<input type="checkbox"/> 0	Curly Top Virus (BCTV)																
<input type="checkbox"/>	Other (Specify Disease and Race or Strain) _____																

## 11. INSECT RESISTANCE:      0 = Not Tested      1 = Susceptible      2 = Resistant      3 = Intermediate      4 = Tolerant

<input type="checkbox"/> 0	Aphid	<input type="checkbox"/> 0	Root Knot Nematode
<input type="checkbox"/> 0	Leafhopper	<input type="checkbox"/> 0	Seed Corn Maggot
<input type="checkbox"/> 0	Lygus	<input type="checkbox"/> 0	Thrips
<input type="checkbox"/> 0	Pod Borer	<input type="checkbox"/> 0	Weevils
<input type="checkbox"/>	Other (SPECIFY) _____		

## 12. PHYSIOLOGICAL RESISTANCE:      0 = Not Tested      1 = Susceptible      2 = Resistant      3 = Intermediate      4 = Tolerant

<input type="checkbox"/> 0	Heat	<input type="checkbox"/> 0	Cold	<input type="checkbox"/> 0	Drought
<input type="checkbox"/> 0	Air Pollution	<input type="checkbox"/> 2	Ozone		
<input type="checkbox"/>	Other (SPECIFY) _____				

## 13. COMMENTS:

11

REPRODUCE LOCALLY: include form number and edition date on all reproductions.

FORM APPROVED - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E  
STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S) Seminis Vegetable Seeds, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER XP 08190505	3. VARIETY NAME Excalibur <i>mau 8/11/05</i>
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 2700 Camino del Sol Oxnard, CA 93030-7967	5. TELEPHONE (include area code) 805-647-1572	6. FAX (include area code) 805-918-2545
7. PVPO NUMBER 200300181		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain ☒ YES ☐

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country ☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use the reverse for extra space):

The variety named in this application was developed by the Seminis Vegetable Seeds, Inc., employee (breeder) named below. By agreement between employee and Seminis Vegetable Seeds, Inc., all rights to any invention, discovery, or development made by an employee are assigned to the Company. No rights to such invention, discovery, or development are retained by the employee.

Employee (Breeder): George Kotch

Site Location: Twin Falls, ID

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.